

WHAT IS CLAIMED IS:

1 1. A system for intensity control of a pixel having 2^N
2 gray-scale tones, comprising:

3 a pixel having 2^s subpixels, two of the subpixels with
4 the lowest light output having a light output ratio of about
5 1:1; and

6 a driver to apply a pulse-width modulated waveform to the
7 subpixels, the modulated waveform having 2^{N-s} pulses of
8 different pulse widths.

1 2. The system of claim 1, the least-significant pulse
2 width and the next-to-the-least-significant pulse width each
3 have a width of $2^s/N$.

1 3. The system of claim 2, the least-significant pulse
2 width being applied to a one of the two subpixels with the
3 lowest light output to obtain a first gray-scale tone.

1 4. The system of claim 2, the next-to-the-least-
2 significant pulse width being applied to the two subpixels
3 with the lowest light output to obtain a second gray-scale
4 tone.

1 5. The system of claim 2, the least-significant pulse
2 width being applied to a one of the two subpixels with the

lowest light output and the next-to-the-least-significant pulse width being applied to the two subpixels with the lowest light output to obtain a third gray-scale tone.

6. The system of claim 1, the 2^s subpixels being concentric.

7. A system for intensity control of a pixel, comprising:

a first subpixel;
a second subpixel, the first subpixel and the second subpixel having a light output ratio of about 1:1; and
a driver to apply a pulse-width modulated waveform to the first subpixel and the second subpixel, the modulated waveform having a first pulse and a second pulse, the first pulse being applied to the first subpixel and the second pulse being applied to the first subpixel and the second subpixel.

8. The system of claim 7, the first pulse and second pulse being of about equal width.

9. The system of claim 8, the modulated waveform having a third pulse being about twice the width of the first pulse, the third pulse being applied to the first subpixel and the second subpixel.

5 10. The system of claim 8, the first pulse and second
6 pulse being of unequal amplitude

7 11. The system of claim 7, the first subpixel and the
8 second subpixel being concentric.

1 12. A method of intensity control of a pixel,
2 comprising:

3 applying a first pulse with a first width to a first
4 subpixel of the pixel to produce a first gray-scale tone; and

5 applying a second pulse with the first width to the first
6 subpixel and a second subpixel of the pixel to produce a
7 second gray-scale tone.

1 13. The method of claim 12 further comprising applying
2 the first pulse to the first subpixel and the second pulse to
3 the first subpixel and the second subpixel to produce a third
4 gray-scale tone.

1 14. The method of claim 12 further comprising applying a
2 third pulse with a second width about twice the first width to
3 the first subpixel and the second subpixel to produce a fourth
4 gray-scale tone.

1 15. The method of claim 12 further comprising applying
2 the first pulse to the first subpixel and a third pulse with a

second width about twice the first width to the first subpixel and the second subpixel to produce a fifth gray-scale tone.

16. A system for intensity control of a pixel, comprising:

a pixel; and

a driver to apply a pulse-width and amplitude modulated waveform to the pixel, the modulated waveform having at least two pulses of different pulse widths, a first one of the at least two pulses having a first width and a first amplitude and a second one of the at least two pulses having about the first width and a second amplitude greater than the first amplitude, the first pulse being applied to the pixel to produce a first gray-scale tone and the second pulse being applied to the pixel to produce a second gray-scale tone.

17. The system of claim 16, the first pulse and the second pulse being applied to the pixel to produce a third gray-scale tone.

18. The system of claim 16, the modulated waveform having a third pulse being about twice the width of the first pulse and twice the amplitude of the first pulse, the third pulse being applied to the pixel to produce a fourth gray-scale tone.

1 19. The system of claim 16, the second one of the at
2 least two pulses having the second amplitude about twice the
3 first amplitude.

1 20. A method of intensity control of a pixel,
2 comprising:

3 applying a first pulse with a first width and a first
4 amplitude to the pixel to produce a first gray-scale tone; and
5 applying a second pulse with the first width and a second
6 amplitude of about twice the first amplitude to the pixel to
7 produce a second gray-scale tone.

1 21. The method of claim 20 further comprising applying
2 the first pulse and the second pulse to the pixel to produce a
3 third gray-scale tone.

1 22. The method of claim 20 further comprising applying a
2 third pulse with a second width about twice the first width
3 and the second amplitude to the pixel to produce a fourth
4 gray-scale tone.